

Application No. 09/754,014  
Response to Office Action of 9/8/05

**AMENDMENTS TO THE CLAIMS**

1-4. (cancelled)

5. (currently amended) A plasmid for expression of recombinant eukaryotic genes, the plasmid comprising:

- a first transcription unit comprising a first transcriptional control sequence transcriptionally linked with a first 5'-untranslated region comprising a first synthetic intron, a first coding sequence, and a first 3'-untranslated region/poly(A) signal, wherein said first synthetic intron is between said first transcriptional control sequence and said first coding sequence; and
- a second transcription unit comprising a second transcriptional control sequence transcriptionally linked with a second 5'-untranslated region comprising a second synthetic intron, a second coding sequence, and a second 3'-untranslated region/poly(A) signal, wherein said second synthetic intron is between said second transcriptional control sequence and said second coding sequence,

wherein the first and second synthetic introns both comprise a 5' splice site having [[a]] the sequence of residues 1-9 of SEQ ID NO:13, a branch point having [[a]] the sequence of residues 93-99 of SEQ ID NO:13, and a 3' splice site having [[a]] the sequence of residues 102-122 of SEQ ID NO:13.

6-9. (cancelled)

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10. (currently amended) A plasmid for expression of recombinant eukaryotic genes, the plasmid comprises:

- a transcriptional control sequence transcriptionally linked with a first coding sequence and a second coding sequence;
- a 5'-untranslated region;
- an intron 5' to said first coding sequence, wherein the intron comprises a 5' splice site having [[a]] the sequence of residues 1-9 of SEQ ID NO:13, a branch point having [[a]] the sequence of residues 93-99 of SEQ ID NO:13, and a 3' splice site having [[a]] the sequence of residues 102-122 of SEQ ID NO:13;
- an alternative 3' splice site located between the first and second coding sequence; and
- a 3'-untranslated region/poly(A) signal.

11-13. (cancelled)

14. (currently amended) A plasmid for expression of recombinant eukaryotic genes comprising:

- a transcriptional control sequence transcriptionally linked with a first coding sequence, an IRES sequence, a second coding sequence, and a 3'-untranslated region/poly(A) signal, wherein said IRES sequence is between said first coding sequence and said second coding sequence; and
- a synthetic intron between said transcriptional control sequence and said first coding sequence, wherein the synthetic intron comprises a 5' splice site having [[a]] the sequence of residues 1-9 of SEQ ID NO:13, a branch point having [[a]] the sequence of residues 93-99 of SEQ ID NO:13, and a 3' splice site having [[a]] the sequence of residues 102-122 of SEQ ID NO:13.

15-50. (cancelled)

51. (currently amended) The plasmid of claim 10 wherein both the 3' splice site and the alternative 3' splice site have [[a]] the sequence of residues 102-122 of SEQ ID NO:13.

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52. (previously presented) The plasmid of claim 10 wherein the 3' splice site is weakened with respect to the alternative 3' splice site.
53. (previously presented) The plasmid of claim 10 wherein the 3' splice site is weakened with respect to the alternative 3' splice site by changing three consecutive T's to A's.
54. (currently amended) The plasmid of claim 10 wherein the 3' splice site has [[a]] the sequence of residues 102-122 of SEQ ID NO:13 with residues 108-110 replaced by AAA and the alternative 3' splice site has [[a]] the sequence of residues 102-122 of SEQ ID NO:13.
- 55-64. (canceled)
65. (currently amended) A synthetic transcription unit for efficient and accurate expression of recombinant eukaryotic genes, the transcription unit comprising a synthetic intron comprising:  
a 5' splice site having [[a]] the sequence of SEQ ID NO:15, a branch point having [[a]] the sequence of SEQ ID NO:17, and a 3' splice site having [[a]] the sequence of Y<sub>16</sub>NYAGG, wherein Y = C or T, Y<sub>16</sub> contains 7 consecutive T residues, and N  
= any base. SEQ ID NO:18, wherein the 3' splice site contains 7 consecutive T  
residues.
- 66-68. (canceled)
69. (currently amended) The synthetic transcription unit of claim 65, wherein the branch point and the 3' splice site together have [[a]] the sequence of TACTAACGGTTCTTTTTTCTCTTCACAGG (SEQ ID NO:13, residues #93 through #122).
- 70-71. (canceled)

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72. (previously presented) A synthetic transcription unit for efficient and accurate expression of recombinant eukaryotic genes, wherein the transcriptional unit comprises a synthetic intron having the sequence of SEQ ID NO:13.

73-76. (canceled)